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*Indian Standard*  
CODE OF PRACTICE FOR  
PACKAGING OF STEEL TUBES  
(*First Revision*)

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BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

*Indian Standard*

**CODE OF PRACTICE FOR  
PACKAGING OF STEEL TUBES**

*(First Revision)*

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*(Continued on page 2)*

\*Capt. N. A. Tamhane was the Chairman for the meeting in which this standard was finalized.

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*Indian Standard*

CODE OF PRACTICE FOR  
PACKAGING OF STEEL TUBES

*(First Revision)*

**0. FOREWORD**

**0.1** This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 March 1979, after the draft finalized by the Packaging of Engineering Goods Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

**0.2** This standard was first issued in 1968 in order to achieve uniformity in the packaging practices followed by various tube manufacturers and suppliers in the country and to ensure proper packaging.

**0.3** The present revision is being issued in view of the revision effected in regard to the packing conditions acceptable for transport of steel pipes and tubes on the Indian Railways.

**0.4** Another code, namely, IS: 7705-1975\*, has been issued for packaging of precision and special purpose steel tubes.

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**1. SCOPE**

**1.1** This code lays down recommended practices for packaging of steel tubes. This code shall not be applicable to precision and special purpose steel tubes.

**2. TERMINOLOGY**

**2.0** For the purpose of this code, the following definitions shall apply.

**2.1 Primary Bundle** — A bundle which is made by tying the tubes together with twin-strand mild steel wire, strong rope or steel strip.

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\*Code of practice for packaging of precision and special purpose steel tubes.

**2.2 Master Bundle** — A bundle either made up of several small bundles or with loose tubes as desired by the purchaser. Such bundle shall be tightly tied and securely knotted with two strands of steel wire or strip of sufficient width and strength, at not less than three places and up to five places, equally spaced in each case.

### 3. BUNDLING

**3.1** The steel tubes may be packed in either of the following ways for despatch:

- a) Small loads ('Smalls'); and
- b) Wagon loads:
  - 1) Horizontal loading; and
  - 2) Slant loading.

For small loads, the packing method as stated in **3.1.1** shall be used. For wagon loads in which the tubes are loaded horizontally, Method 2 or 3 ( see **3.1.2.1** and **3.1.2.2** ) shall apply. For wagon loads in which the tubes are loaded in slanting position, Method 4 ( see **3.1.2.3** ) shall be employed.

**3.1.1 Small Loads ('Smalls') ( Method 1 )** — In the case of screwed and socketed tubes, exposed threads shall be protected by plastic protection rings or bitumenized hessian. The tubes shall be secured in bundles. In the case of tubes with plain ends, end protection is optional.

**3.1.2 Wagon Loads** — The tubes may require horizontal loading or slant loading depending on their lengths. When horizontal loading is required, Method 2 ( see **3.1.2.1** ) or Method 3 ( see **3.1.2.2** ) shall be used. When slant loading is required, Method 4 ( see **3.1.2.3** ) shall be used.

**3.1.2.1 Horizontal loading ( Method 2 )** — The tubes shall be in bundles, weighing not less than one tonne each. The tubes in a bundle shall be securely tied and knotted together with two strands of quarter hard wire, 3·15 mm in diameter, conforming to IS : 280-1972\*, or with cold rolled steel strips, not less than 32 mm wide and 0·9 mm thick, conforming to IS : 4030-1973†, at a distance of 0·5 m from each end. Each bundle shall then be given a minimum of three additional similar bindings, evenly spaced in between the two end bindings.

**3.1.2.2 Horizontal loading ( Method 3 )** — When the tubes are of such length as permit horizontal loading, these shall be tightly packed up to the top layer. On this layer, structurals like flats or rods, each of them bent to 'V' shape, shall be placed in a criss-cross way to cover the entire layer from end to end, lengthwise and breadthwise, of the open wagon.

\*Mild steel wire for general engineering purposes ( second revision ).

†Cold rolled carbon steel strip for general engineering purposes ( first revision ).

Alternatively, instead of rods or flats, a framework of light structurals, which would cover the entire top layer breadthwise as well as lengthwise, may be placed above the top layer. The structurals shall then be securely bound with at least two layers below with quarter hard wire, 3.15 mm in diameter, conforming to IS : 280-1972\*, and then knotted and sealed with a lead seal on the top at not less than eight points, evenly spaced.

Tubes of shorter length shall be loaded below the longer ones when loaded in open wagon. In this case, small bundles as defined in 2.1 or loose tubes may be loaded.

**3.1.2.3 Slant loading (Method 4) —** When the tubes are of such length as to necessitate being loaded in a slanting position, one end shall be resting on the floor of the wagon and the other end supported on the side of the wagon. The projection shall not exceed 0.5 m. Tubes shall be tied in master bundles, weighing not less than 400 kg each. Each bundle shall be firmly bound with two strands of quarter hard wire, 3.15 mm in diameter, conforming to IS : 280-1972\*, or with cold rolled steel strips not less than 32 mm wide and 0.90 mm thick, conforming to IS : 4030-1973†, at a distance of 0.5 m from each end. Each bundle shall then be given a minimum of three additional similar bindings, evenly spaced in between the two end bindings.

**3.2** Detachable fittings of the tubes, like sockets, shall be machine/wrench tight before loading, unless otherwise specified. The threads of the tubes shall be effectively covered with a good quality grease or other suitable compound. The unsocketed screwed ends of the tubes shall be protected by suitable plastic protection rings or pieces of gunny cloth previously soaked in tar and dried.

#### 4. MARKING

**4.1** A plastic tag or metal plate shall be fixed at least at one end of the bundle, giving particulars of the bundle. Alternatively, the required particulars may be painted on each of the pipes. There may be some marking on the pipes or bundles to identify the manufacturer.

\*Mild steel wire for general engineering purposes (second revision).

†Cold rolled carbon steel strip for general engineering purposes (first revision).

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